



== **PERMITE** ==

Ready-Mixed

ALUMINUM PAINT

PHILADELPHIA

FRANKLIN INSTITUTE
PHILADELPHIA

1019-11,

SEP 11 1937



PERMITE ALUMINUM PAINT

READY-MIXED

ALUMINUM INDUSTRIES, INCORPORATED, CINCINNATI, OHIO

FRANKLIN INSTITUTE
PHILADELPHIA



Painting

**FOR BETTER
PROTECTION
and ECONOMY**



When you paint with . . . **ALUMINUM PAINT**

You Gain The Protective Value of Metal

HERE'S THE REASON

Aluminum, as we all know, is a most durable metal. When produced in the form of tiny flakes and made into paint, properly compounded, the millions of tiny flakes "leaf". That is, they overlap each other and actually form a continuous lustrous coat of pure metal — for lasting protection of wood, metal, concrete, brick, galvanized iron and fabric surfaces.

EVERYWHERE . . .

You see Aluminum Paint on



You see Aluminum Paint used
for Better Protection against

CORROSION

MOISTURE

FUMES

ACIDS

EXCESSIVE HEAT

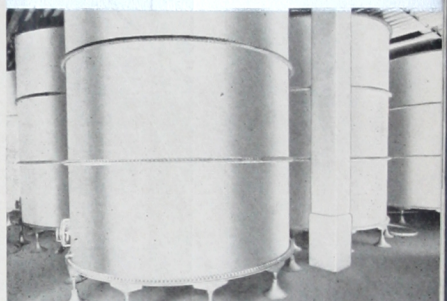
and for **BETTER LIGHTING**



EXTERIORS



INTERIORS



TANKS



STACKS



BRIDGES

PERMITE PAINT COSTS LESS "BY THE FOOT" [5]

Tests Prove Aluminum Paint Gives Better Protection Against Heat and Evaporation Losses

The results, listed below, of heat reflecting tests made on tanks containing benzine, as reported in National Petroleum News, show that aluminum paint ranks ahead of all white or colored paints in reducing temperature rise:

Color	Rise in Temperature ° F.	Color	Rise in Temperature ° F.
Tin Plate	19.8	Light Gray	26.3
Aluminum	20.5	Light Green	26.6
White	22.5	Red Oxide Iron.....	29.7
Light Cream	23.0	Dark Prussian Blue.....	36.7
Light Pink	23.7	Dark Chrome Green ...	39.9
Light Blue	24.3	Black	54.0

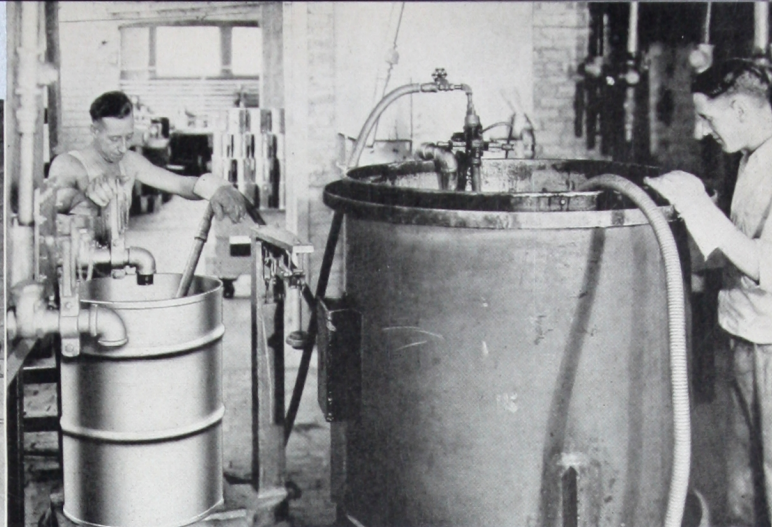
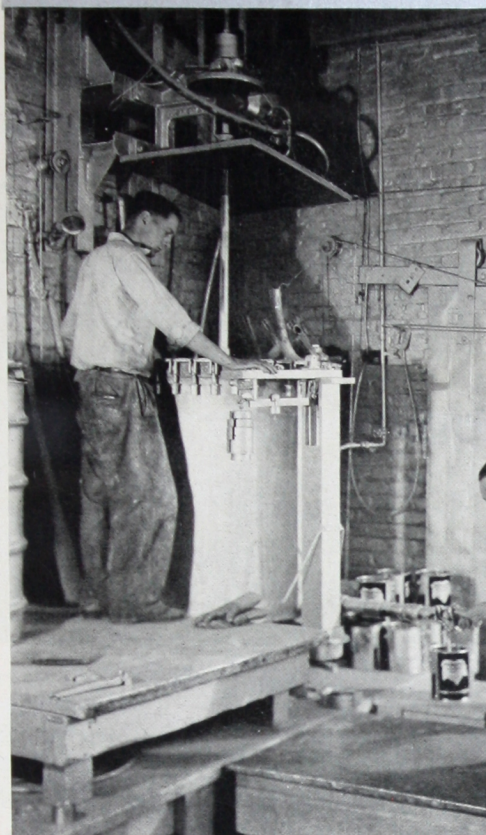
In tests conducted by the Bureau of Mines and a large petroleum producing company, tanks of crude protected with aluminum paint showed the lowest evaporation and gravity losses, as below:

Color of Tanks	Initial Gauge Barrels	Evaporation loss in 1 Year		Loss in Gravity in 1 Yr.
		Barrels	Per Cent	
Aluminum	53,418	447	0.83	0.2° A.P.I.
Gray	53,192	547	1.03	0.3° A.P.I.
Red	53,294	609	1.14	0.5° A.P.I.
Black	52,058	649	1.24	0.6° A.P.I.



**PERMITE
IS
DIFFERENT**





**Are All
Aluminum
Paints Alike?**

They Are Not!

PERMITE ALUMINUM PAINT

is made in the **ONLY** paint plant in the world that
makes **ONLY ALUMINUM** Paint!



**ALL PERMITE Laboratory Facilities . . . All
PERMITE Research . . . All PERMITE Technical Skill
are devoted to just ONE purpose . . .**

**To making the FINEST ALUMINUM PAINT it is
possible to produce.**

PERMITE COSTS LESS "BY THE FOOT"

Nothing left to chance—



the Manufacture of **PERMITE** **ALUMINUM PAINT**

- Every ingredient, every step in production, is laboratory checked and controlled.
- Every can of Permite Aluminum Paint goes out uniform —
- **IN COLOR**
 - **IN TEXTURE**
 - **IN CONTENT**
 - **IN QUALITY**
- **RIGHT** for the particular purpose for which it is intended



THE OLD WAY



THE PERMITE WAY

PERMITE ALUMINUM PAINT IS READY-MIXED

Ordinary aluminum paints, which must be mixed on the job, cause waste. The pigment, in a separate compartment, often contains large particles of powder, difficult to wet with the vehicle. When the paint is mixed, oxidation starts. This means loss of color, discarding of left-overs.

Permite — the successful READY - MIXED aluminum paint — has ended all this. Permite does not readily oxidize — retains its color indefinitely. No time lost in mixing; no throwing away of left-overs.

PERMITE SAVES TIME AND WASTE



Do You Mix **COLORED** Paints on the Job?

Would you purchase your colored paints in a double container that required mixing on the job?

Of course not! Then why buy aluminum paint that way — when it's no longer necessary?

Permite is **READY-Mixed**! It is different from other aluminum paint. Comes in one single compartment can — ready to open and use. Think of the saving in time — in trouble — in materials.

How the patented processed, synthetic, resinous vehicle of Permite Aluminum Paint looks in its first stage.



No paint is better than its vehicle—

MANY otherwise good aluminum paints fail because of the lack of a vehicle that meets all requirements. That is why Permite engineers spared no time or expense in developing by a patented process the exclusive synthetic vehicle which is used in Permite Ready-Mixed Aluminum Paint.

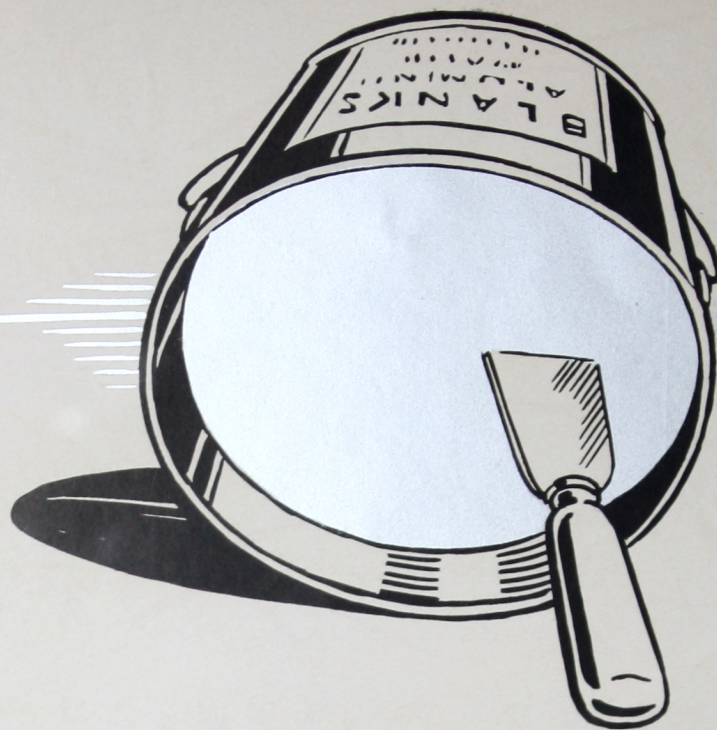
*This is Another
Big Reason Why.*

PERMITE

Ready-Mixed Aluminum Paint

- is always easily agitated
- has lasting brilliance
- gives extra coverage
- makes frequent repainting unnecessary

PERMITE COSTS LESS "BY THE FOOT"



This can't happen with **PERMITE**

THE EXCLUSIVE PROCESSED SYNTHETIC VEHICLE
USED IN PERMITE READY - MIXED PAINT HOLDS
THE ALUMINUM PIGMENT IN WORKABLE CON-
DITION. ALWAYS EASILY AND QUICKLY STIRRED.

*Permite Never Discolors
or Hardens in Cans!*

PERMITE is FIRST in Economy
and Efficiency because it never discolors,
never hardens in the can, will stand open
without rapid deterioration.

EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS EXPLOSIONS

EXPLOSIONS!

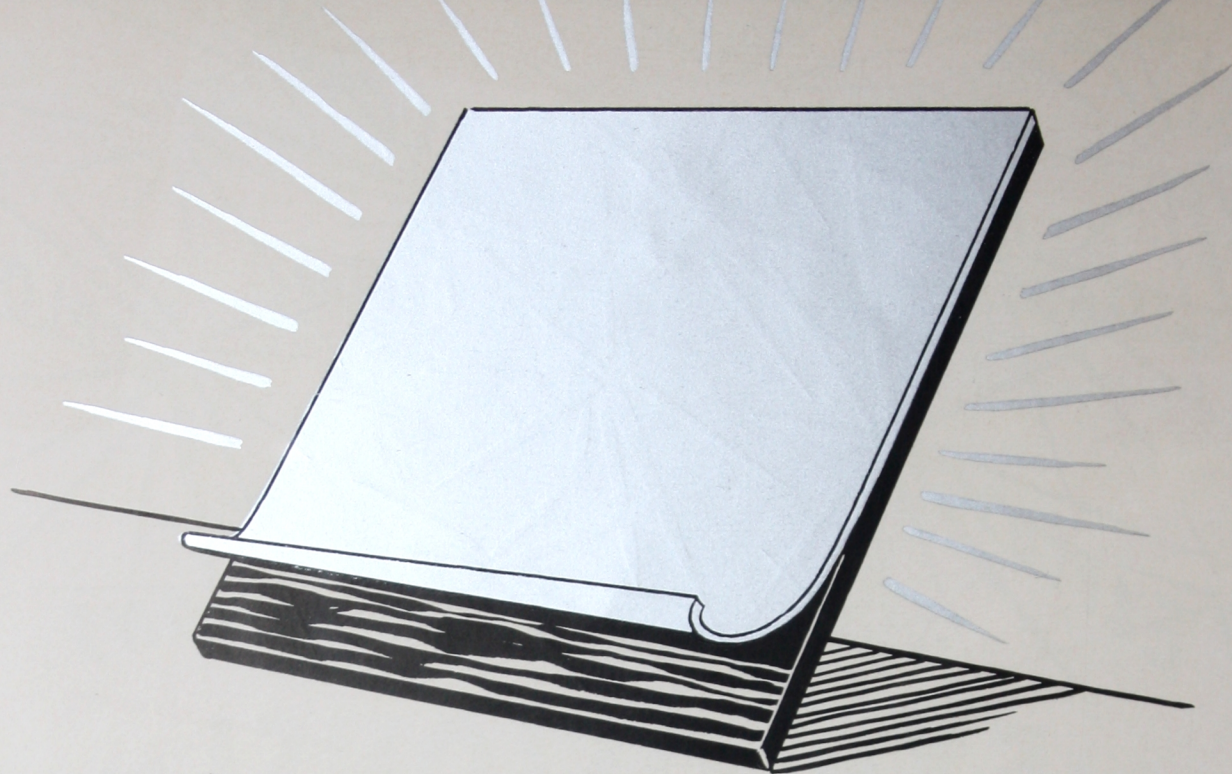
EXPLOSIONS! MILLIONS OF THEM EACH DAY IN A SPECIALLY DESIGNED VACUUM-MIXING CYLINDER ARE PART OF THE PERMITE EXCLUSIVE PROCESS FOR BREAKING UP ALL PIGMENT CLUSTERS. PERMITE ALWAYS REACHES YOU THOROUGHLY MIXED, COMPLETELY FREE FROM DRY CLUSTERS AND LUMPS.

*This is One
Big Reason Why-*

PERMITE Ready-Mixed ALUMINUM PAINT

- ---applies more easily---has greater hiding
- power---gives a smoother, more lastingly
- brilliant coat---provides permanent protection

PERMITE COSTS LESS "BY THE FOOT"



PERMITE

"Hides" Like a Sheet of Metal!

The pure aluminum Permite flakes are of such exceptional fineness that they "leaf", to form a continuous coat of metal. Permite Ready-Mixed Aluminum Paint, therefore, completely hides any dark-colored or spotted surface.

Because it "hides" better, ONE coat instead of two is the rule with Permite.

Permite is often used to eliminate the bleeding tendency of asphalt and bituminous finishes.





You buy paint less often when you use **PERMITE**

The patented processed, synthetic vehicle developed by Permitem engineers and the specially treated, extra fine Permitem aluminum pigment, combine to make the Permitem finish highly resistant to oxidation.

*Slow Oxidation
means Long Life!*

SO WHEN you choose Permitem Ready-Mixed Aluminum Paint you save frequent repaintings.

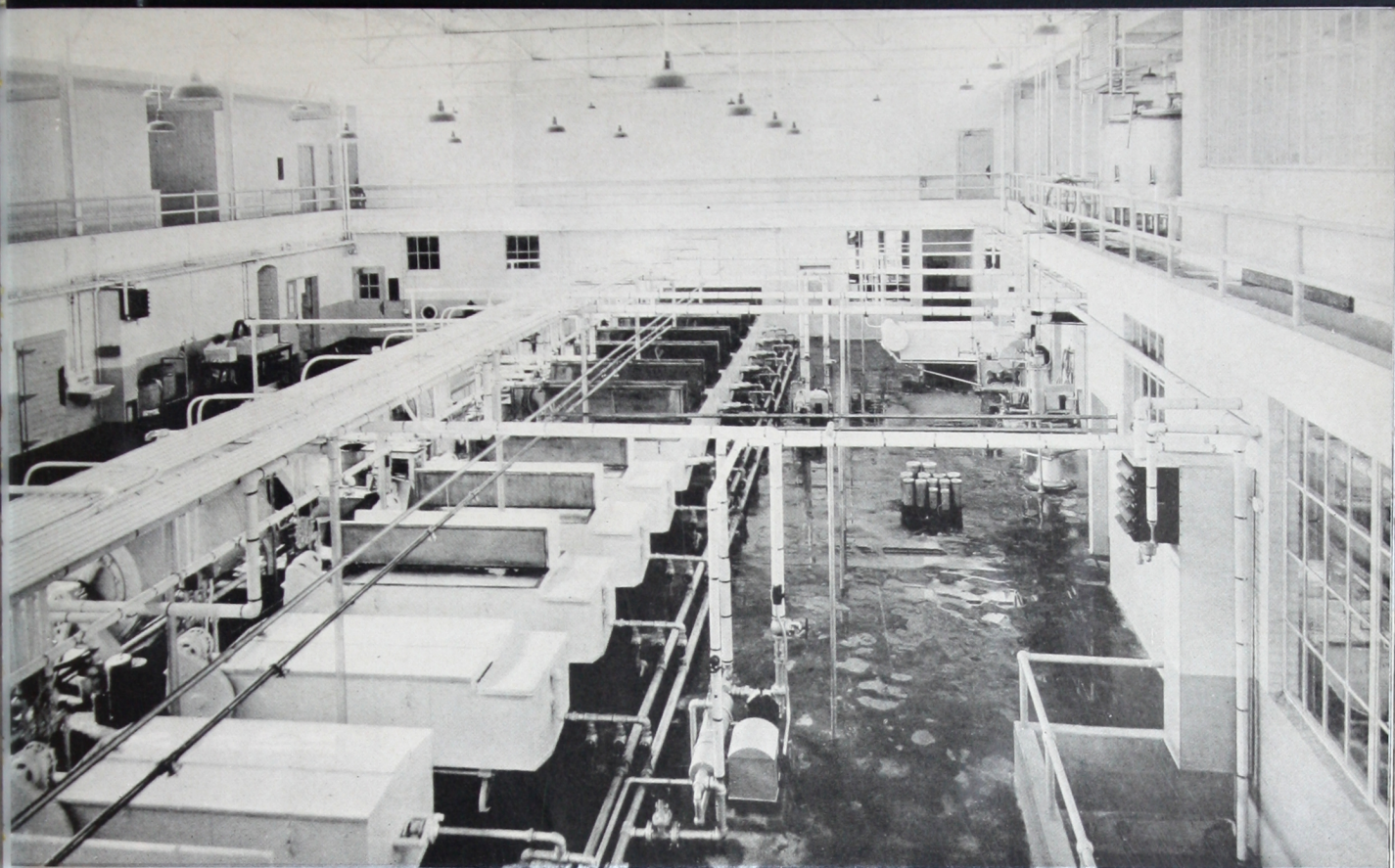
PERMITE COSTS LESS "BY THE FOOT"



You use--

$\frac{1}{3}$ Fewer Gallons!

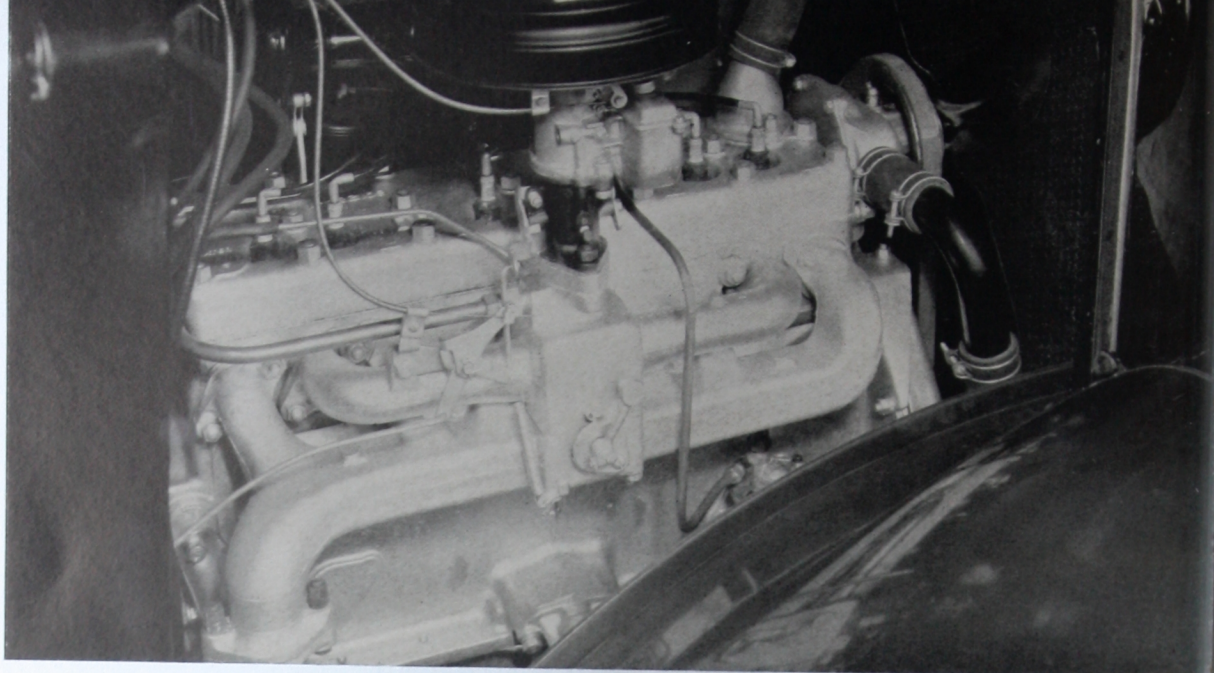
Only extra fine Standard Lining Aluminum Powder, specially processed, is used in Permite. This processing increases its "leafing" power (or overlapping of the aluminum particles) — and better "leafing" means greater coverage. Furthermore, Permite is of such heavy consistency that thinning of from 25% to 75% is required. 40 gallons of Permite give the same coverage as 60 gallons of ordinary aluminum paint.



BETTER LIGHTING COOLER TEMPERATURE

Gloomy interiors are transformed by a coat of Permite Ready-Mixed Aluminum Paint. Tests have shown that the lustrous Aluminum finish reflects 60 to 70 per cent of the total light falling upon it. Dirt and dust do not easily adhere to the Permite finish of glass-like smoothness. Used on exteriors of buildings, Permite Ready-Mixed Aluminum Paint reflects the sunlight, and keeps the interiors 7 to 10 degrees cooler.

PERMITE WALLS ARE EASILY CLEANED



For Heated Surfaces

The special Heat-Resisting grade of Permite Aluminum Ready-Mixed Paint solves the problem of painting heated surfaces. On motors, boiler fronts, ovens, stoves, manifolds, Permite Heat-Resisting Aluminum Paint has stood all tests. You can safely use it on surfaces with temperatures ranging from 450° F. to 1000° F. with no fear of peeling, cracking or blistering. In many instances Permite Heat-Resisting Aluminum Paint has given complete protection where other finishes had failed.





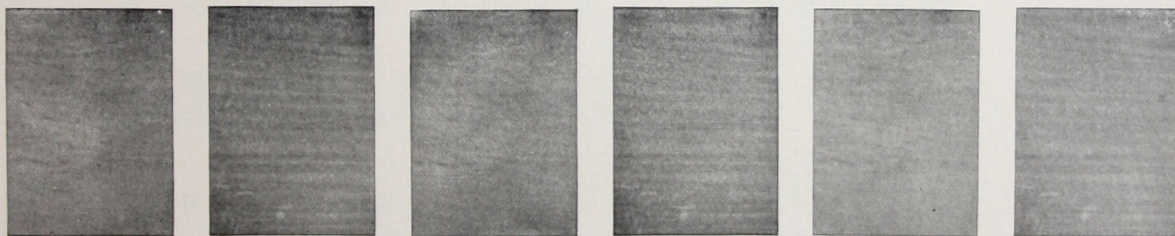
TESTS PROVE PERMITE QUALITY



EVERY TEST PROVES PERMITE'S SUPERIOR PROTECTION!

(The Salt Spray Test)

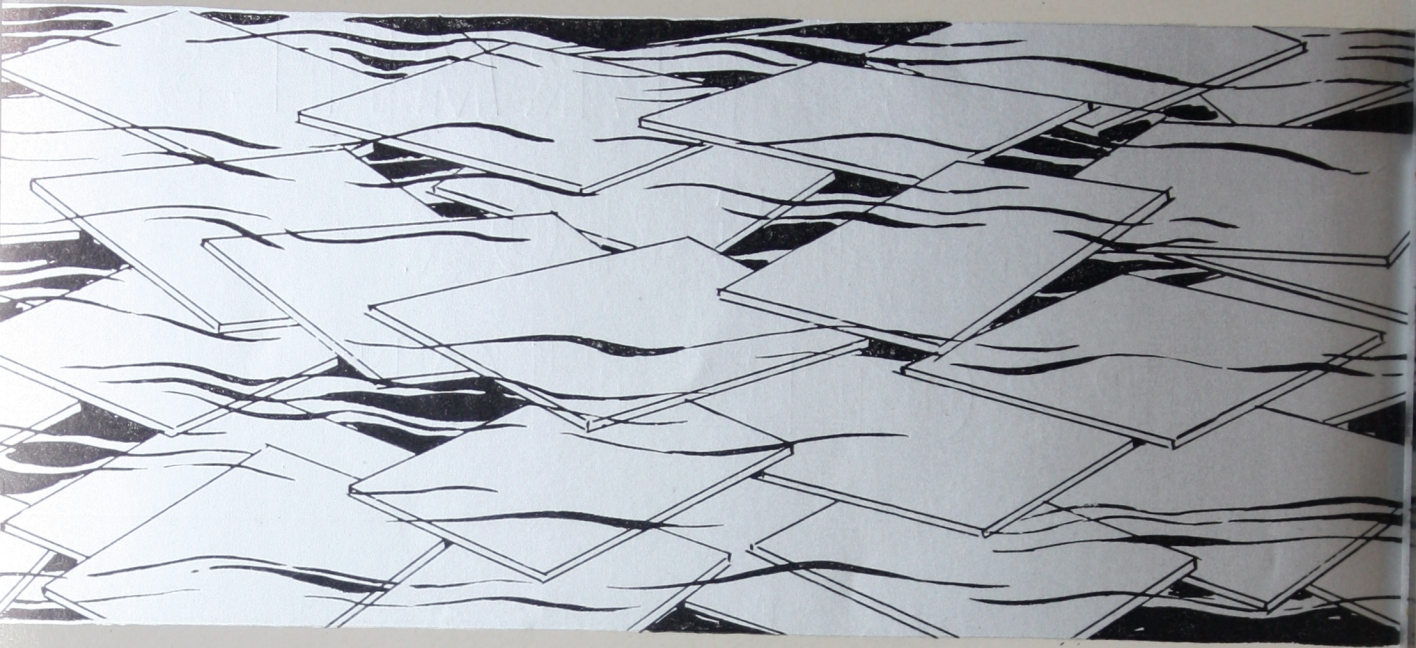
70 Aluminum Paint Panels were
exposed to salt spray for 100 hours.



These six panels showed least destructive action.

ALL SIX were painted with
Permite Ready-Mixed Aluminum Paint

(The Water Test)

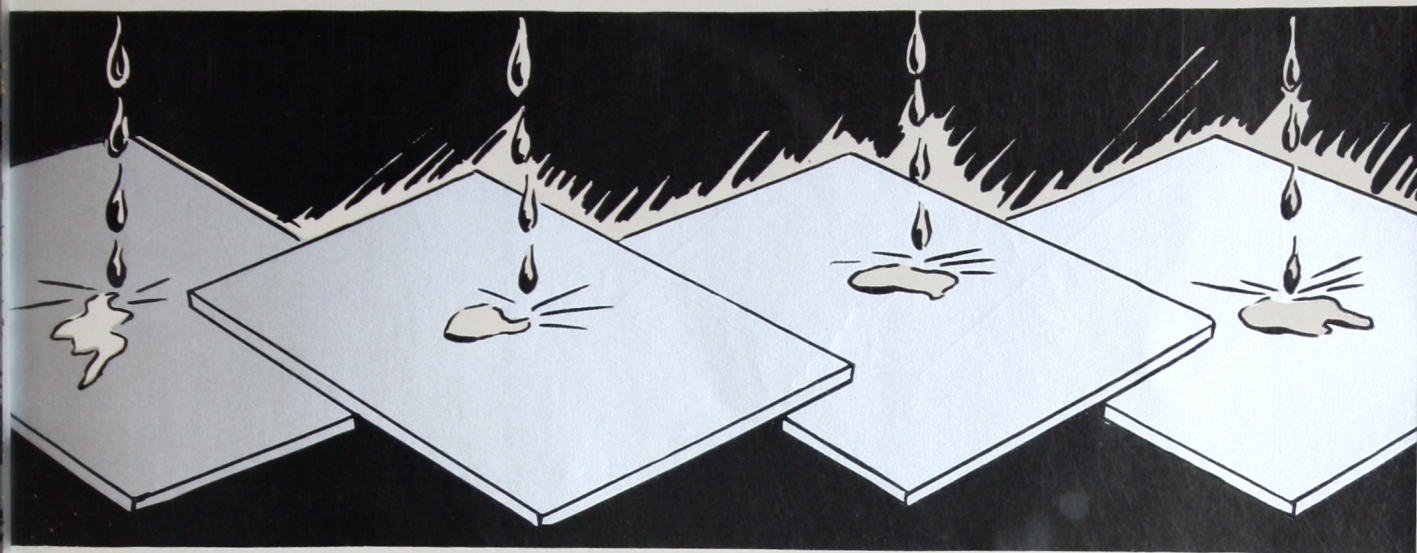


70

**Aluminum Paint Panels
were immersed in water
for 100 hours**

**The PERMITE PANEL was One
of Two Showing Highest
Resistance to This Test**

(The Acid Test)



Solutions of various common acids and alkalies were dropped on 100 Aluminum Paint Panels

PERMITE

showed greatest resistance

***in 12 out of 16
Such Tests!***

USE PERMITE FOR ACID RESISTANCE

(Weather Test)



**For 9 months 2 Permite and
68 other Aluminum Paint
Panels were subjected to
a rigorous weather test.**

R E S U L T S

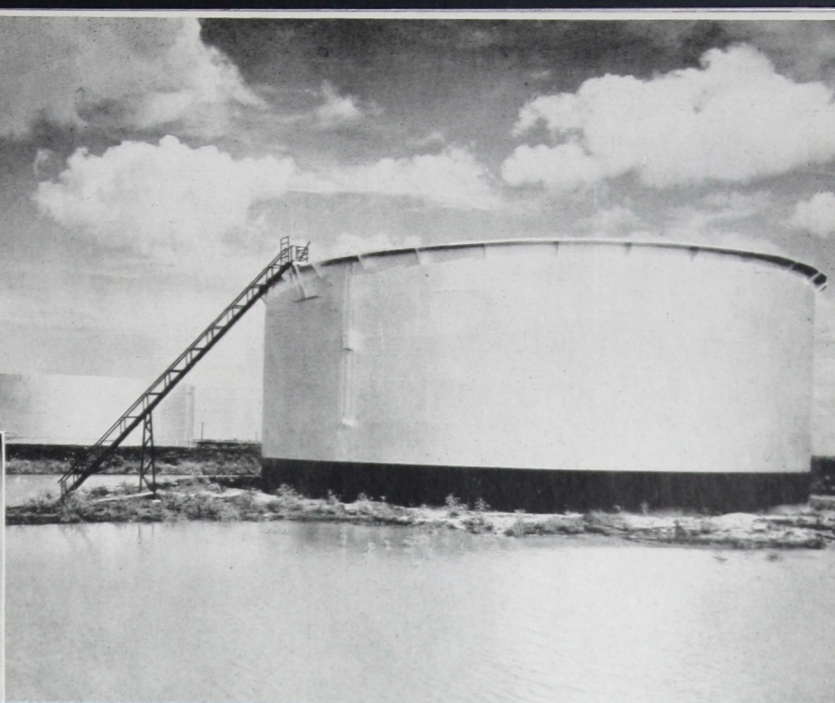
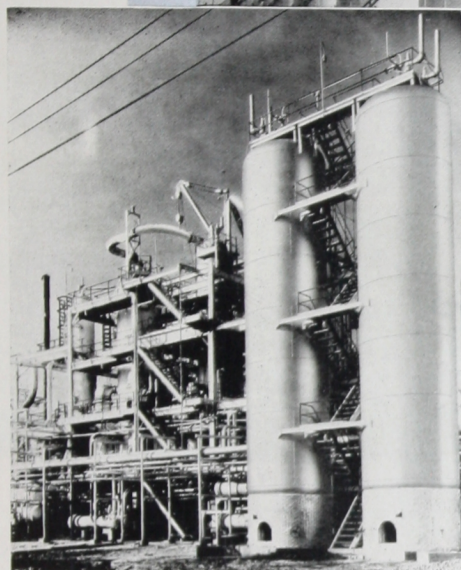
**36 Failures
19 Fair
10 Very Good
5 Excellent**

**BOTH PERMITE PANELS WERE
AMONG THE 5 EXCELLENT**



**PERMITE
USED
EVERYWHERE**



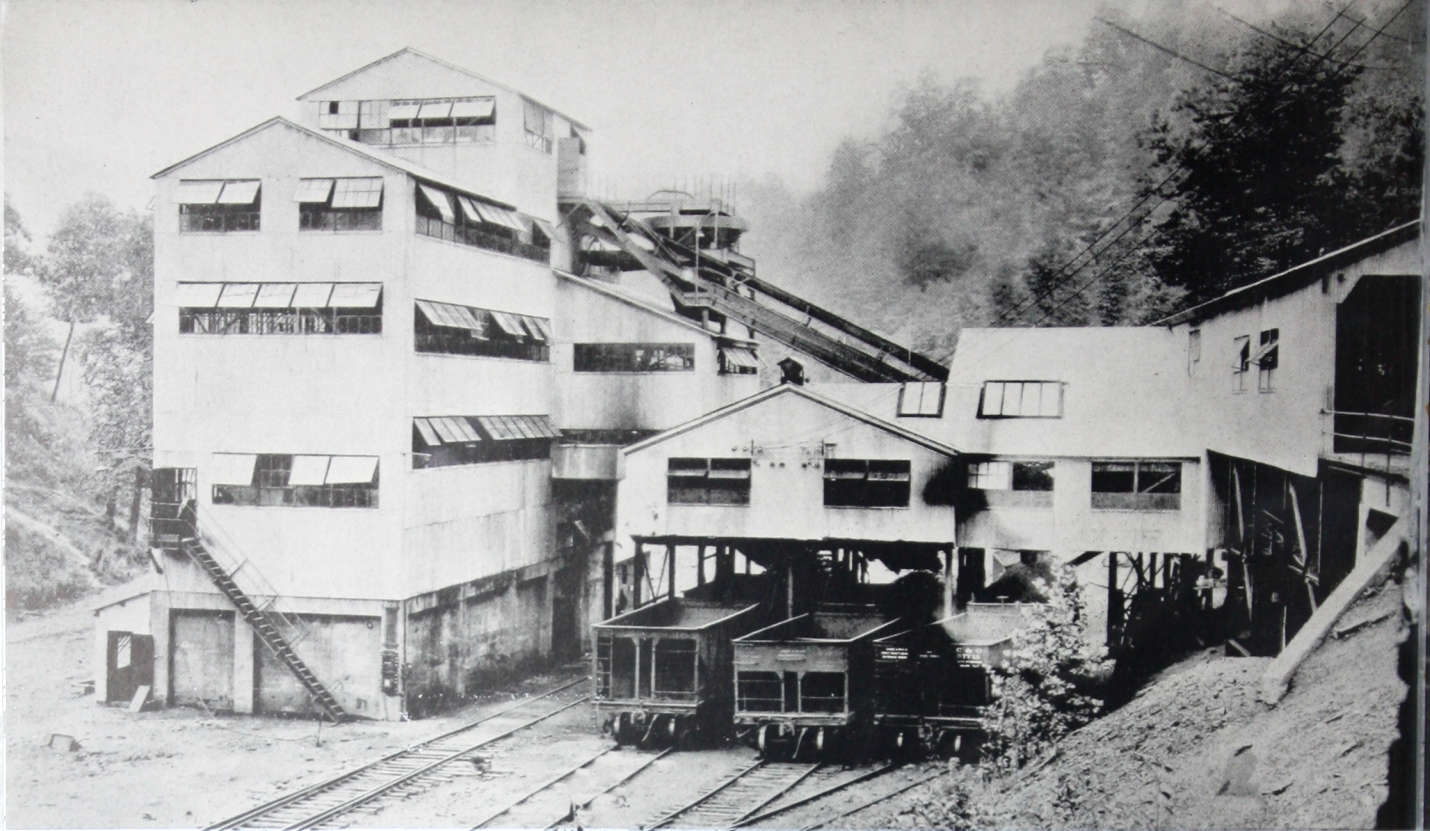


Oil Industry Makes Big Savings by using PERMITE ALUMINUM PAINT...

Permite Ready-Mixed Aluminum Paint is a big money saver for the oil industry because it reflects the hot rays of the sun. On oil tanks, Permite keeps the contents cooler, and so reduces loss from evaporation. The yearly savings are tremendous.

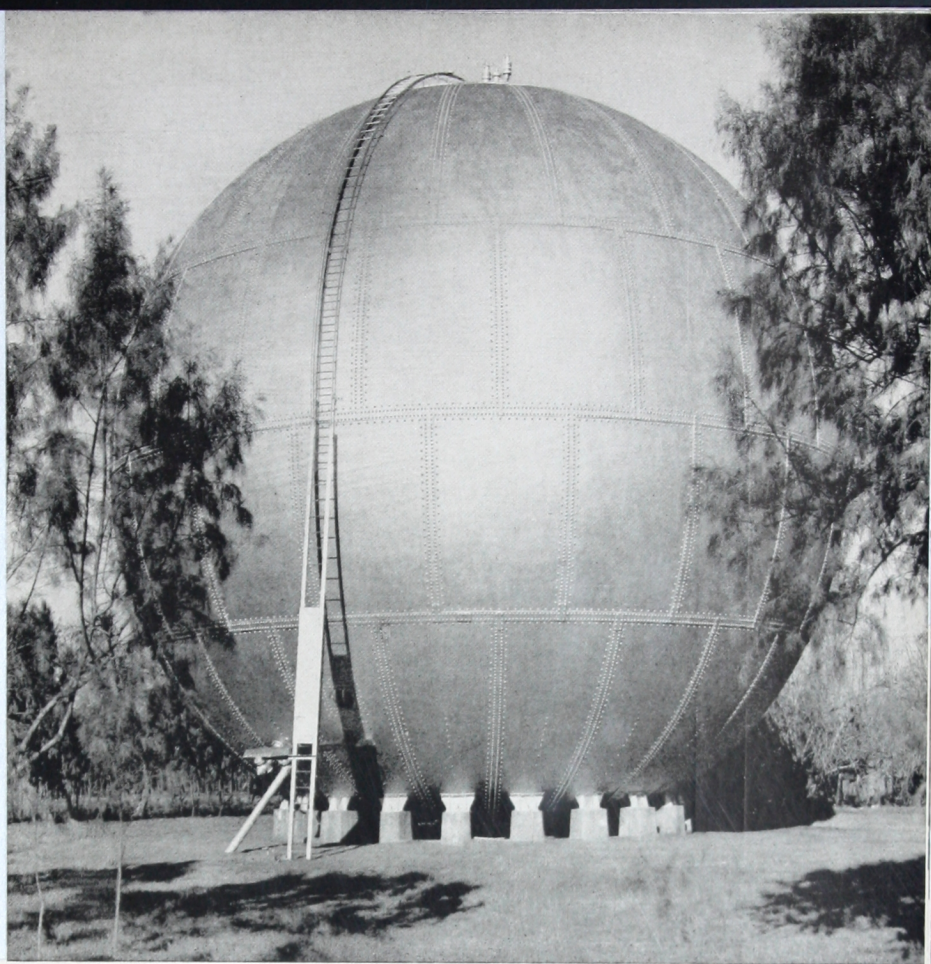
Permite also affords unusual protection against rust and corrosive fumes. On pipe lines, refineries, tank cars and other equipment used for the production, storage, refining and transportation of oil, Permite is an aid to preservation and conservation.

PERMITE RETARDS EVAPORATION



Coal Companies Protect Their Properties with **PERMITE** Aluminum Paint

Drabness and rapid deterioration are eliminated where coal companies use Permite Ready-Mixed Aluminum Paint on tipples, breakers, pipe lines, towers, underground compartments and equipment. Just one coat, and a wonderful transformation is made.



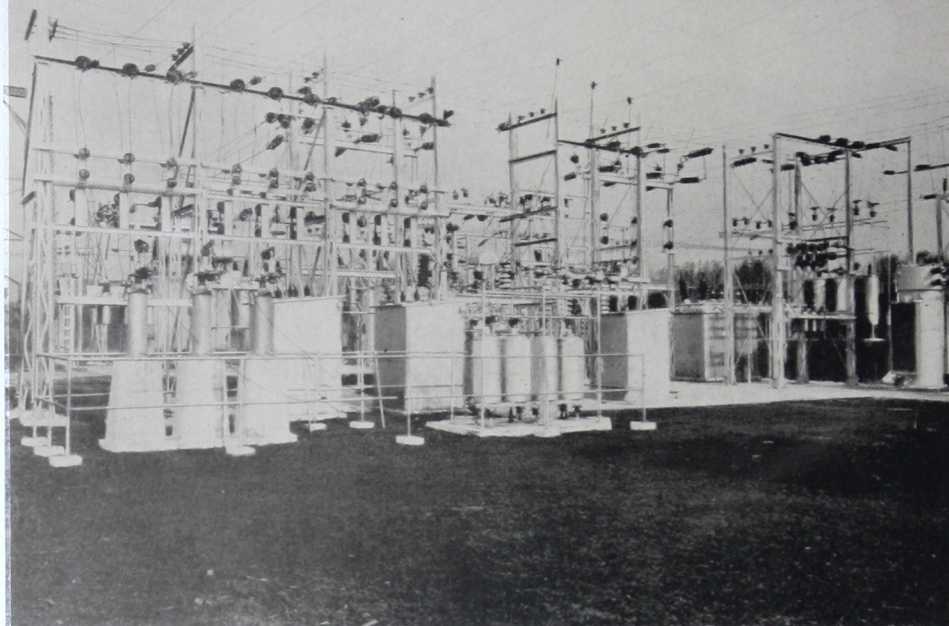
Gas Industry Property Guarded Against Sudden Temperature Changes . . .

The gas industry uses Permite Ready-Mixed Aluminum Paint on pressure storage tanks to save gas. Reflecting the sun's heat, Permite keeps tanks cooler, reduces temperature and pressure changes, cuts down losses from blow-off valves in hot weather.

Used on other equipment for protection against hydrogen sulfide and other corrosive gases.

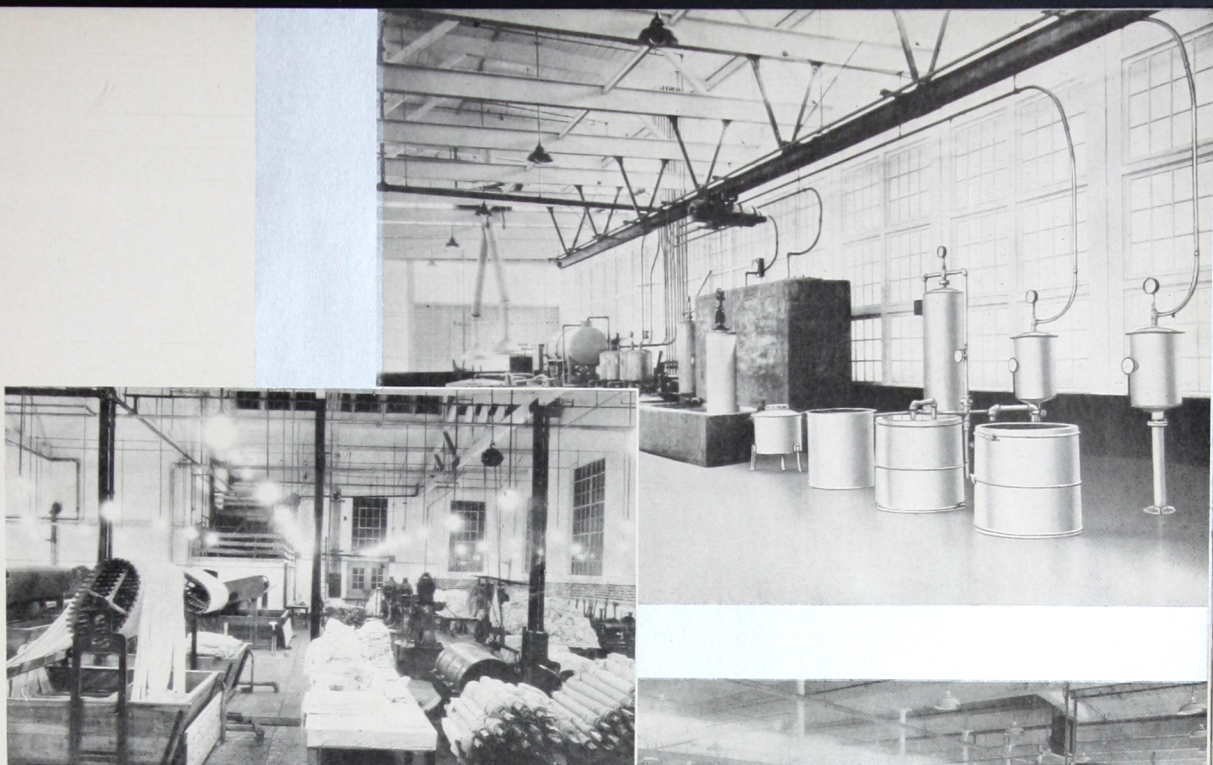
PERMITE COSTS LESS "BY THE FOOT"

[31]



Sulfurous Fumes or Smoke Can't Attack PERMITE-Protected Equipment

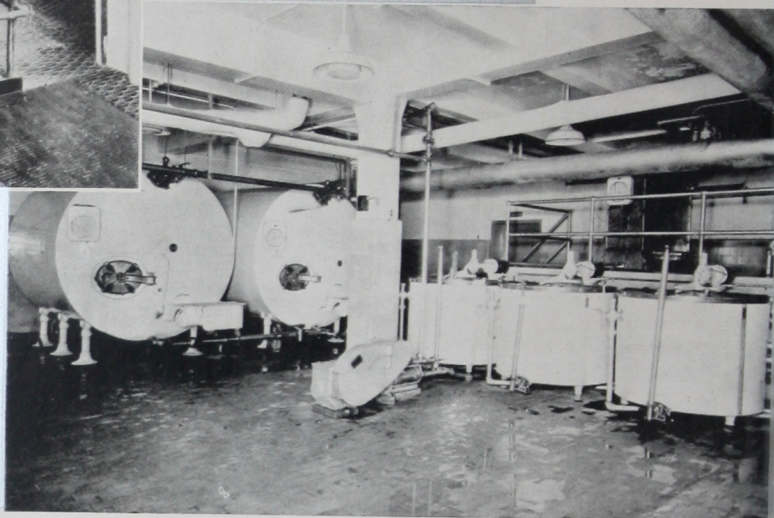
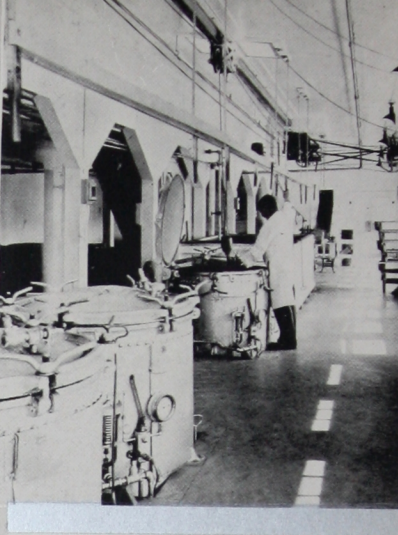
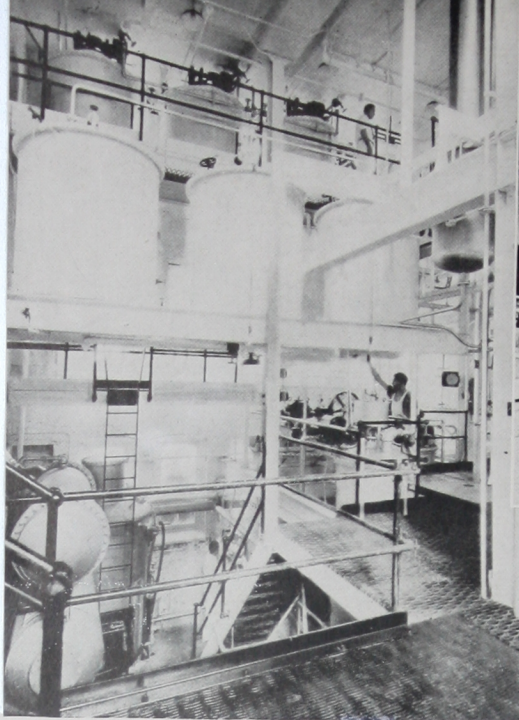
Electric Light and Power maintenance men have found Permite Ready-Mixed Aluminum Paint ideal for protection of transmission line towers, transformer boxes, central and sub-station equipment. One coat protects against moisture and corrosion, torrid rays of the sun, sulfurous fumes or smoke. Its gleaming, lustrous finish adds visibility and a beauty that creates a most favorable public impression.



In the Textile Industry — **PERMITE** Protects Dye Houses, Weaving, Loom and Spindle Rooms • •

Fumes and gases in dye houses, moisture in weaving rooms and the need for good visibility in loom and spindle rooms, make Permite Ready-Mixed Aluminum Paint a preferred paint in the textile field.

PERMITE IS APPLIED WITH BRUSH OR SPRAY GUN

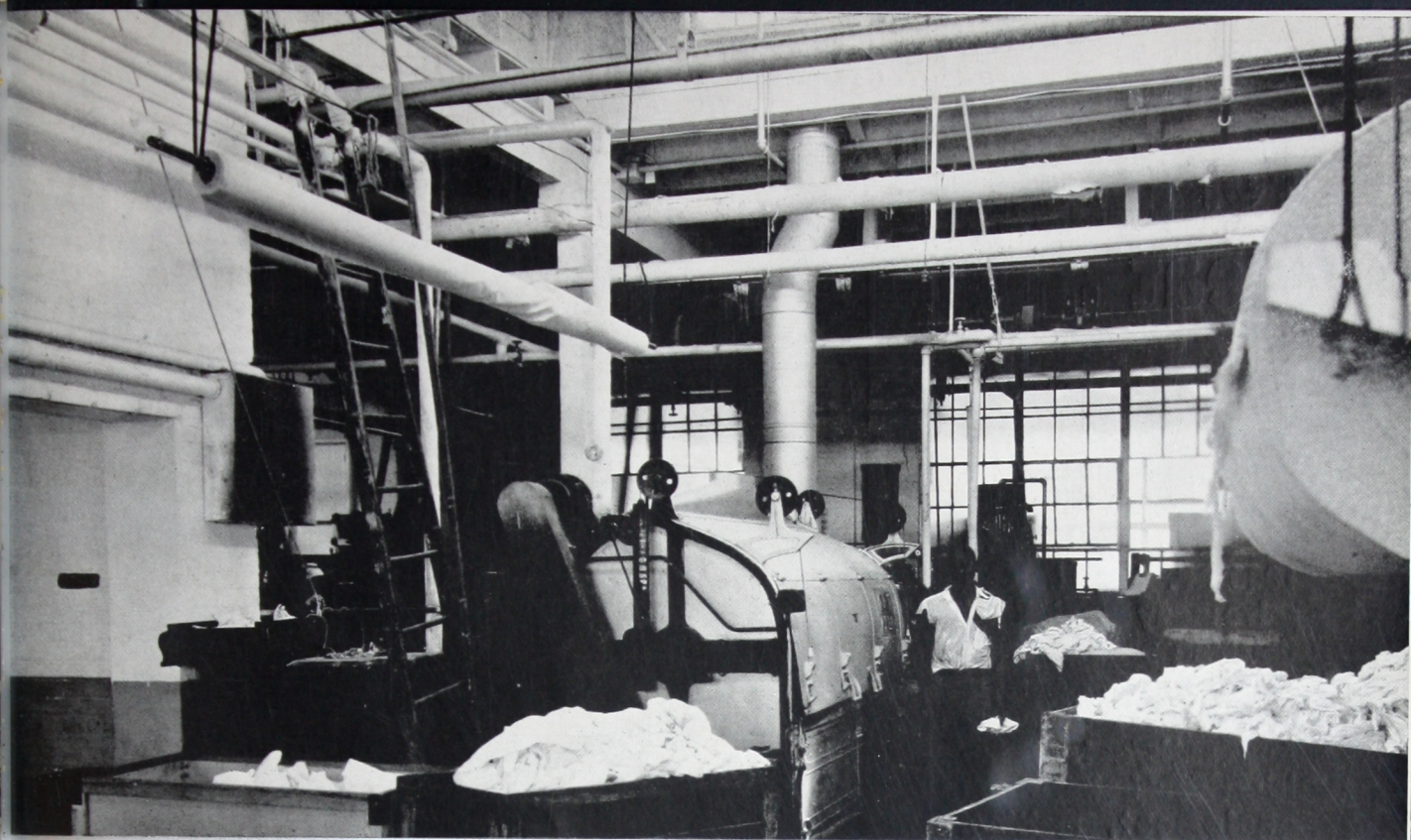


PERMITE Aluminum Paint Guards Your Food . . .

Packers, Canners and other Food Manufacturers know that Permite Aluminum Paint promotes cleanliness and sanitation. Its lustrous finish of glass-like smoothness on walls and equipment is easy to keep clean, gives better lighted interiors.

Its extra resistance to moisture makes Permite ideal for dairies and ice cream plants.

Used in pickling rooms to protect against acid fumes.



All Laundries Need **PERMITE** Aluminum Paint

CONDENSATION of moisture on ceilings and overhead pipes must be guarded against in laundries. Otherwise, falling drops of water may stain and soil clothing. Permite Aluminum Paint in addition to its other advantages greatly minimizes this hazard. Permite also adds the important factors of cleanliness and good illumination, for it will withstand frequent washings.

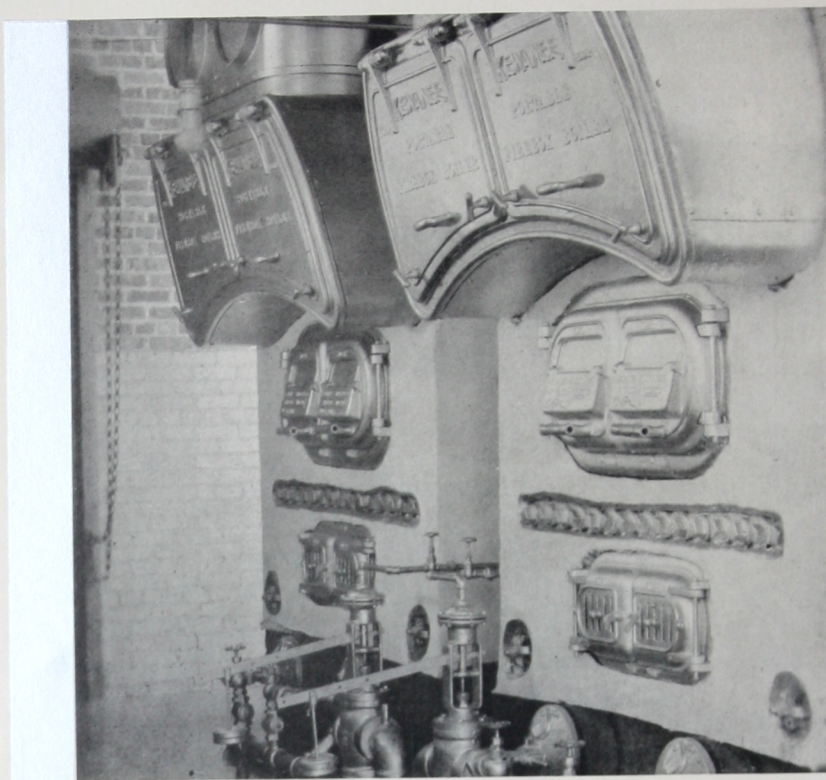
PERMITE COSTS LESS "BY THE FOOT"

[35]

For Protection Against Excessive Heat . . .

The proven ability of Permite Heat-Resisting Ready-Mixed Aluminum Paint to resist temperatures up to 1000° F. has helped solve many specialized finishing problems.

It is one of the very few satisfactory finishes for boiler-room equipment, melting, and heat treating furnaces, steam pipes, and other excessively heated surfaces.



PERMITE Meets The Test

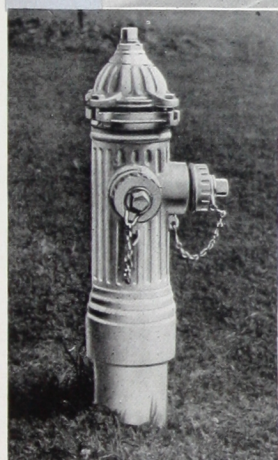


Exhaust pipe fumes, gases and heat put any finish to a severe test. That is why Permite Heat-Resisting Ready-Mixed Aluminum Paint was used to give the exhaust pipe of this transport plane a lustrous, lasting finish.

States, Counties, Cities, are Large Users of PERMITE Aluminum Paint



The lustrous, silvery Permitem Aluminum finish protects expensive bridges; increases visibility for greater safety at night; stimulates public pride.



The Permitem painted fire hydrant is a sign of civic progressiveness. It indicates that public officials realize the true economy of painting for lasting beauty and protection.

Every light standard and fire hydrant in this western city, with its lustrous Permitem Aluminum Paint finish, contributes to civic pride. Permitem is gaining rapidly in favor for municipal uses because its extra beauty, extra protection cost no more.



This loading platform is safer because the protective Permitem finish makes it highly visible day or night.

PERMITE GIVES LUSTROUS BEAUTY!

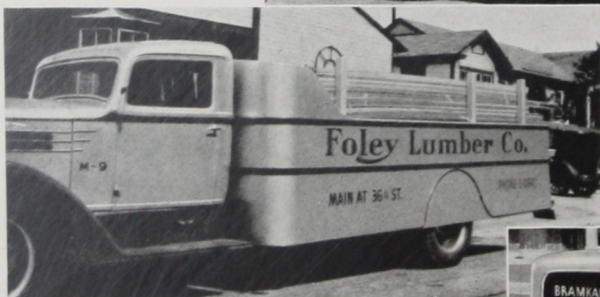
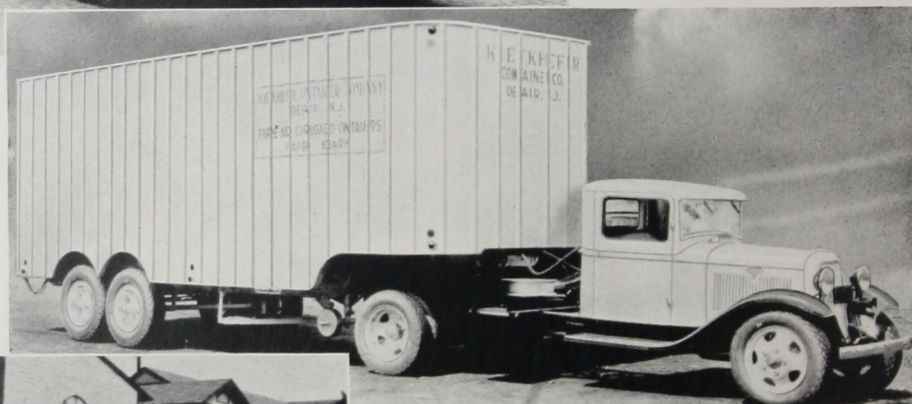
PERMITE

Adds Smart Appearance to Buses, Trucks, Trailers!



Bus operators everywhere use Permite Aluminum Paint for beautifying and protecting their fleets. Permite reflects the sun's rays and keeps buses cooler in summer.

Operators of large trailers find the Permite finish easy to keep clean. And Permite reflects the heat, keeps interiors several degrees cooler.



Permite Ready-Mixed Aluminum Paint adds smartness to this modern lumber truck.

Dust and dirt do not easily cling to this Permite - protected delivery truck. • •



TOYS FURNITURE FANS
ELECTRICAL APPLIANCES
HARDWARE BED SPRINGS
METAL POSTS

The Preferred Finish for Many Products!

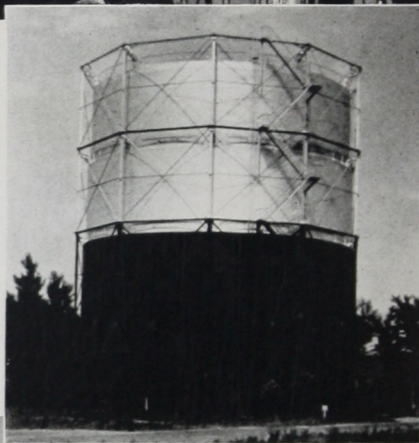
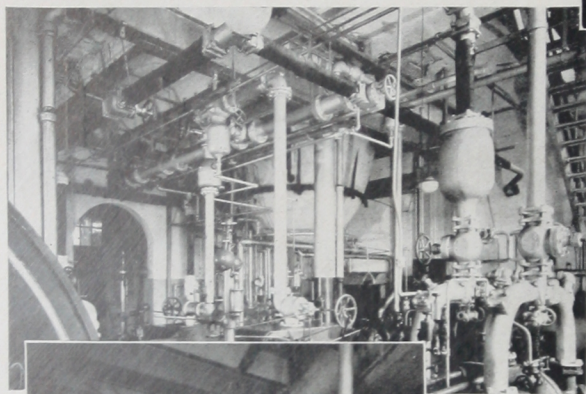
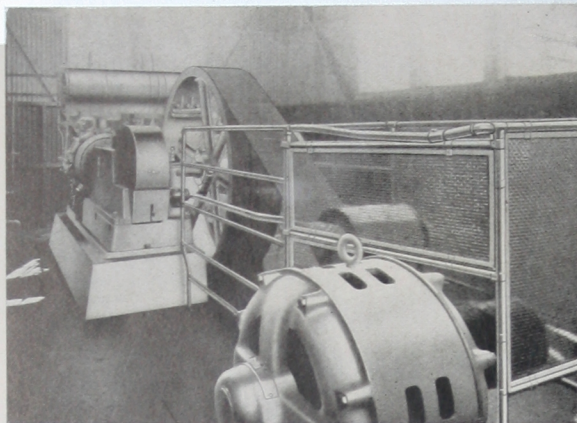
FOR use as a dipping or spraying paint in product finishing, Permite Ready-Mixed Aluminum Paint No. 6000 has specific advantages. It gives an attractive finish of glass-like smoothness, to which dust does not readily cling. It is easily cleaned and long lasting. These advantages, plus the extra protection against moisture, corrosion and heat, provided by Permite Ready-Mixed Aluminum Paint, are bringing it into rapidly increasing use for finishing products in widely varied fields.



PERMITE QUALITY ASSURES TRUE ECONOMY

PERMITE

Meets All Requirements

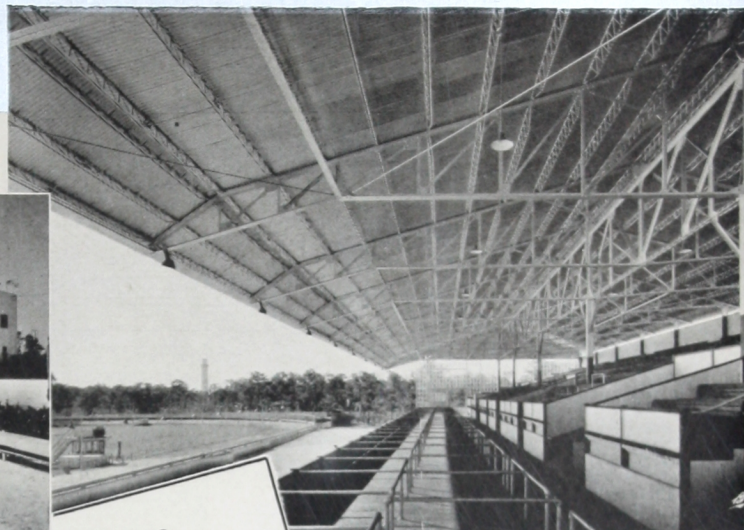




WHAT USERS SAY



"PERMITE Spread Twice as Far" --- says Contractor



FLORIDA ROOFING AND SHEET METAL WORKS
 ALL KINDS OF ROOFING AND SHEET METAL
 BUILT UP ROOFING OUR SPECIALTY
 BONDED AND APPROVED ROOFERS
 2306 19th STREET
 TAMPA, FLORIDA

JOHN A. DIAZ
 MANAGER

PHONES: NY 3803
 NY 4707

November 27, 1935.

Aluminum Industries, Inc.,
 Cincinnati, O. Attention: Paint Division.

Gentlemen:-

During the twenty years that I have been interested in metal and construction work, I have seen many developments and improvements made in building materials and finishes, but no one advancement has ever impressed me more than that which your company has brought to Aluminum Paint.

If you could see the Racing Plant of the West Florida Racing and Athletic Association, at Tampa, Florida, you would know why I am writing you so enthusiastically about your product. My company recently completed an expansive building and repair contract for the Racing Association, and it was on this project that I first used Permite Aluminum Paint.

The brilliance and cleanliness which the Permite Paint reflects from the grandstand, paddock, stalls and infield fence, make this Race Track a veritable show ground. But of equal import to me, was the ease with which our men were able to apply the paint. Being ready-mixed, it saved a lot of time and messy work on the job. The only mixing required was in thinning. And what a revelation it was to all of us to find that Permite spread twice as far on both the metal and wood surfaces, as any other aluminum paint we ever used. Furthermore, only one coat was required to give perfect coverage.

I am enclosing several small pictures of the Racing Plant, which I shall be glad to have you accept with my compliments. For I feel most grateful to the company who has made such strides in perfecting a product of such outstanding qualities as Permite Aluminum Paint.

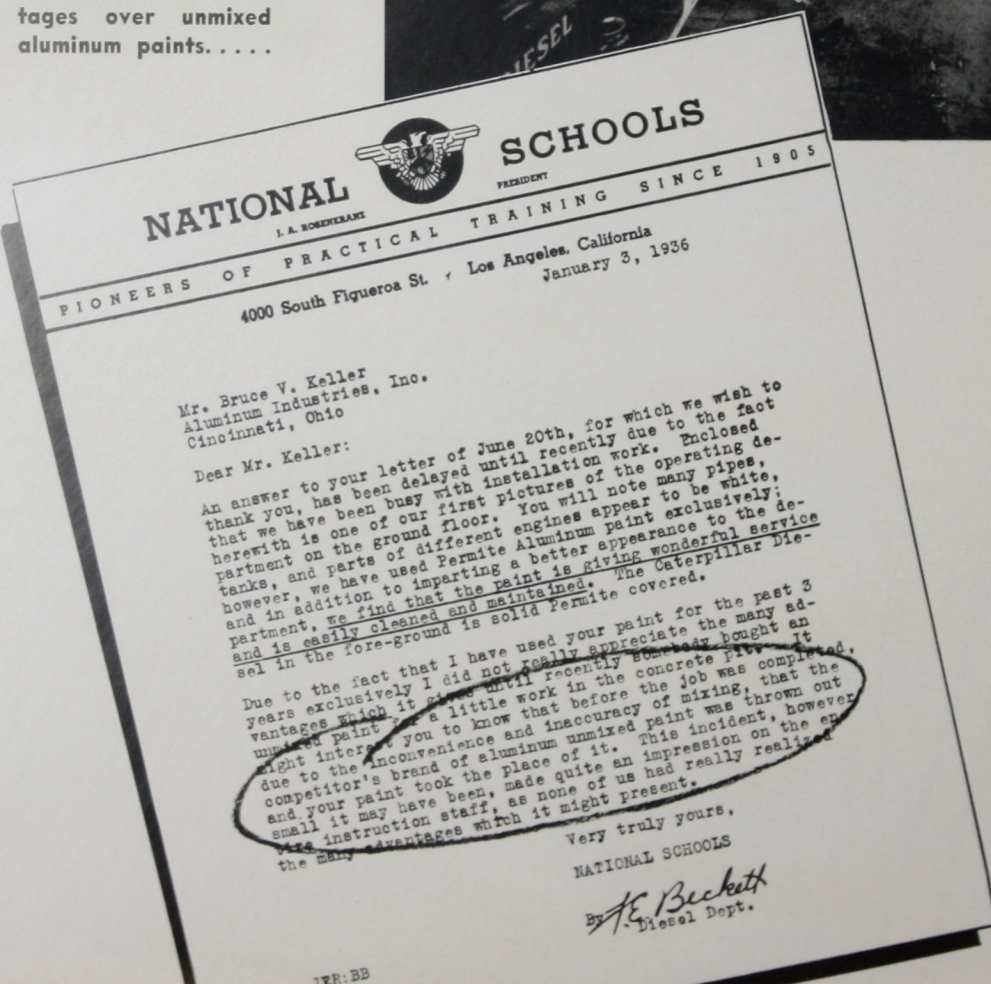
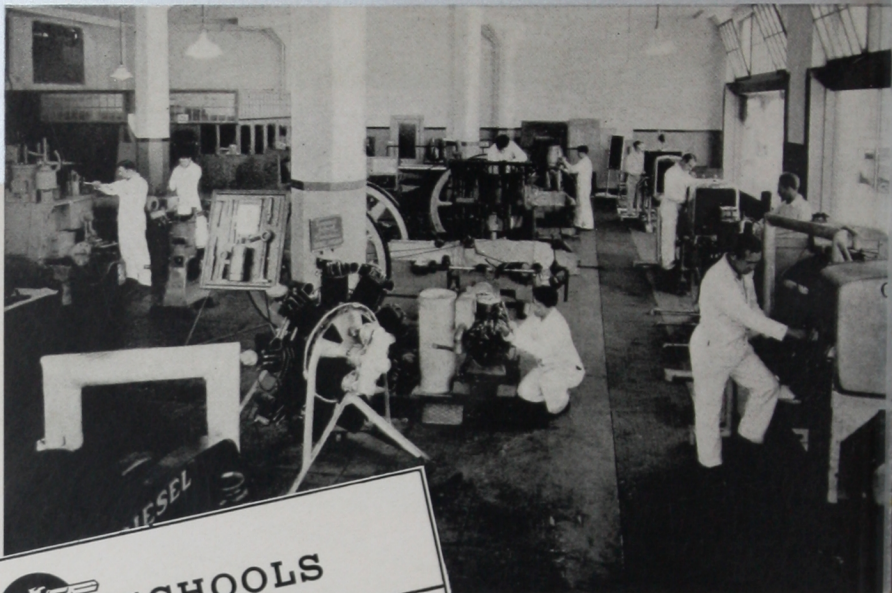
Very truly yours,
John A. Diaz
 FLORIDA ROOFING & SHEET METAL WORKS.
 John Diaz,
 Pres. and Gen. Mgr.

JD:ee

"PERMITE SAVED A LOT OF TIME" — says Mr. Diaz

Have Used PERMITE Exclusively for 3 Years

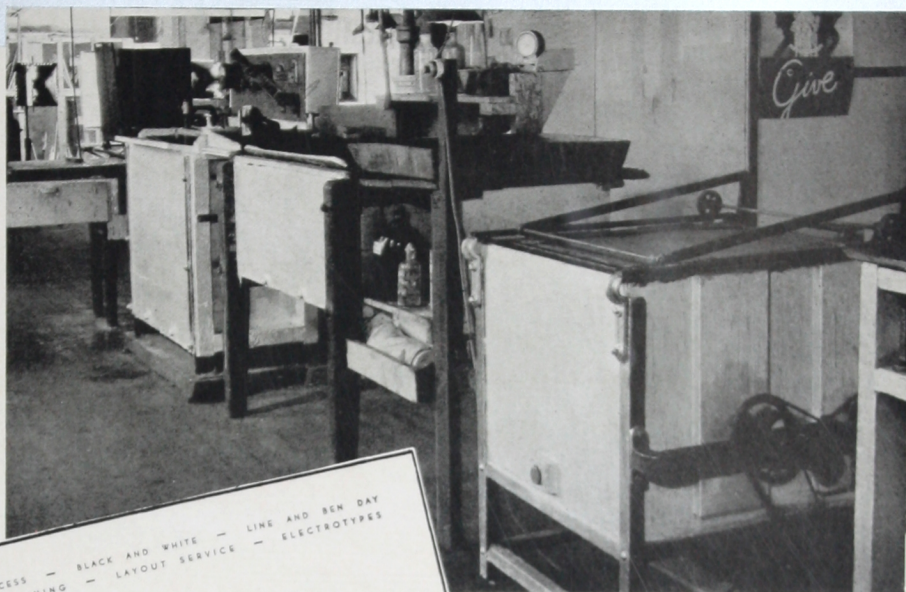
NATIONAL Schools found by test that in uniformity of results and in the saving of time and waste, Permite Ready-Mixed Aluminum Paint offers tremendous advantages over unmixed aluminum paints. . . .



JER:BB

PERMITE Resists Acid Conditions —

Mr. Steinman, of the De Luxe Engraving Company, Cincinnati, is enthusiastic over Permitem's resistance to acid and acid fumes. He says it has considerably reduced his depreciation costs on certain equipment.



FINE QUALITY REPRODUCTION IN COLOR PROCESS — BLACK AND WHITE — LINE AND BEN DAY
PHOTOGRAPHING — RETOUCHING — DESIGNING — LAYOUT SERVICE — ELECTROTYPES

DE LUXE
ENGRAVING COMPANY
INCORPORATED
714 SYCAMORE ST. CINCINNATI OHIO

June 1, 1936

Aluminum Industries, Inc.,
2438 Beckman Street,
Cincinnati, Ohio.

Gentlemen:

Protecting tanks and walls in engraving plants against the effects of acids has always been a problem.

About a year ago we tried Permitem Ready-Mixed Aluminum Paint. Now we have no more trouble from the eating away of the sides of the copper etching machine by the dripping of chloride of iron as plates are removed. This trouble has been stopped with one coat of Permitem.

The sides of the washing tank likewise, are subject to excessive erosive action from muriatic acid, acetic acid, and chloride of iron. Here again Permitem Aluminum Paint has given the protection we wanted.

And our walls near the nitric acid tank no longer show any ill effects from the fumes, since we have painted them with Permitem.

We are certainly pleased with the money Permitem saves us through its unusual protective qualities.

Sincerely,

DE LUXE ENGRAVING COMPANY, Inc.

President.

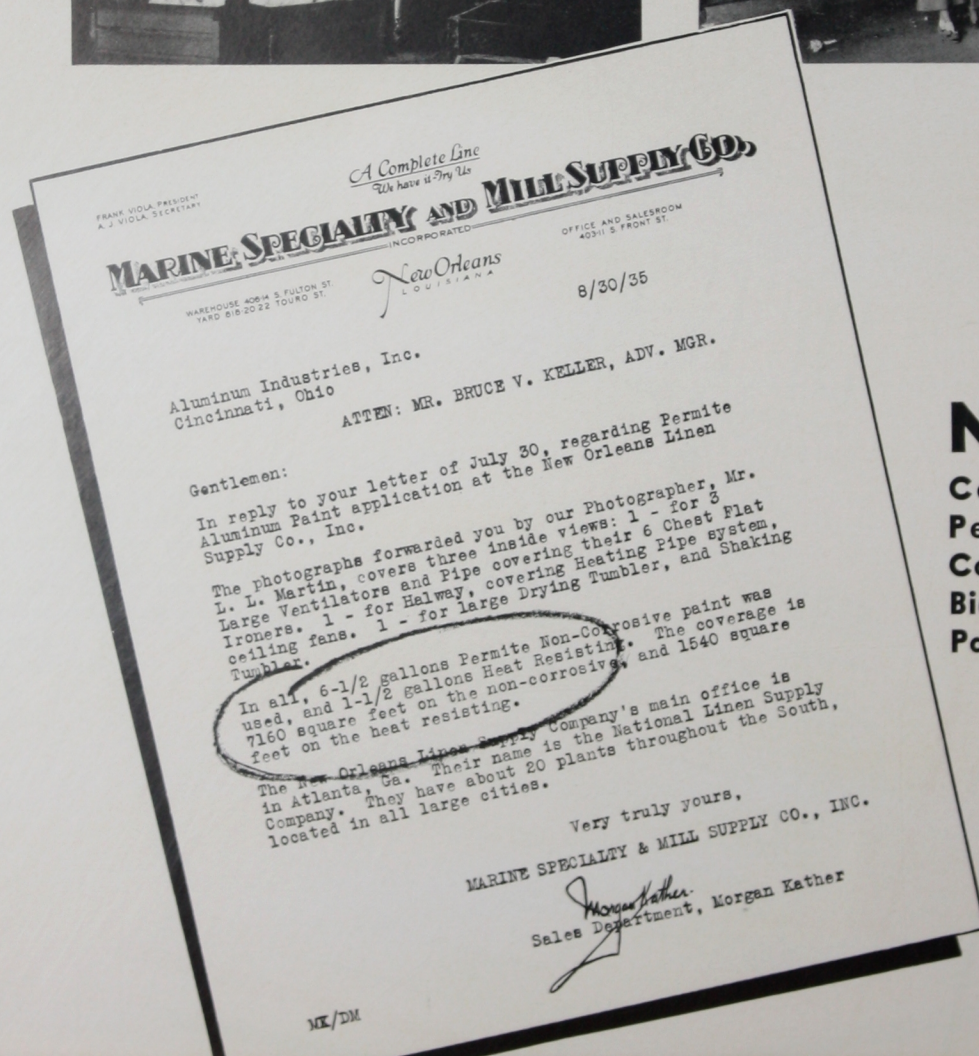
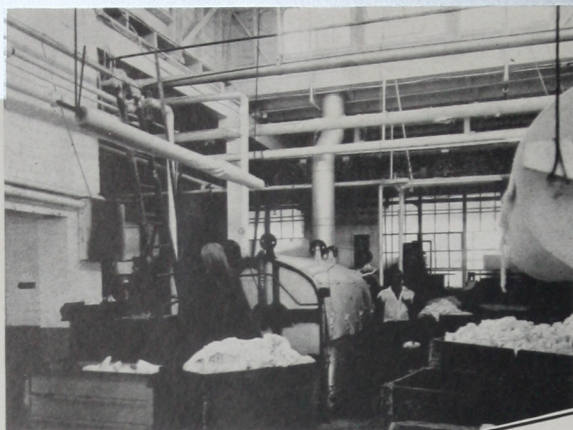
GRAPEFRUIT CANNER PRAISES PERMITE

"... We have to employ a high grade paint to withstand the acid and cold conditions existing in our canning plant. We have found that Permitem Aluminum Paint comes nearer filling the bill than any other aluminum paint we have tried. We'll be only too glad to recommend it to anyone in the canning business."

K. H. SANDERS, Supt.
Florida Fruit Cannery, Inc.

PERMITE PROTECTS PROPERTY AGAINST ACID

6 $\frac{1}{2}$ Gallons of PERMITE Covered 7160 Sq. Ft.--Averaging 1100 Sq. Ft. per Gal.



NEW ORLEANS
Linen Supply
Company Found
Permite's Extra
Coverage meant a
Big Saving in their
Paint Costs. . . .

"A Very Severe Application for Paint"

—says Mr. Mendelson



HERBERT A. MENDELSON
DETROIT

May 14th., 1935

Aluminum Industries Inc.,
718 Fisher Building,
Detroit, Michigan

Gentlemen:

Attention: Mr. A. Heroux

I am pleased to report that after using your Permite Aluminum paint, both in the heat resisting and non-corrosive types, on marine motors used in both fresh and salt water in Florida, find that after one year's use the application of this paint is in perfect condition.

This, of course, is a very severe application for paint, due to heat, moisture and salt water corrosion, but I do not hesitate in recommending this paint for this type of application.

Yours very truly,

Herbert A. Mendelson

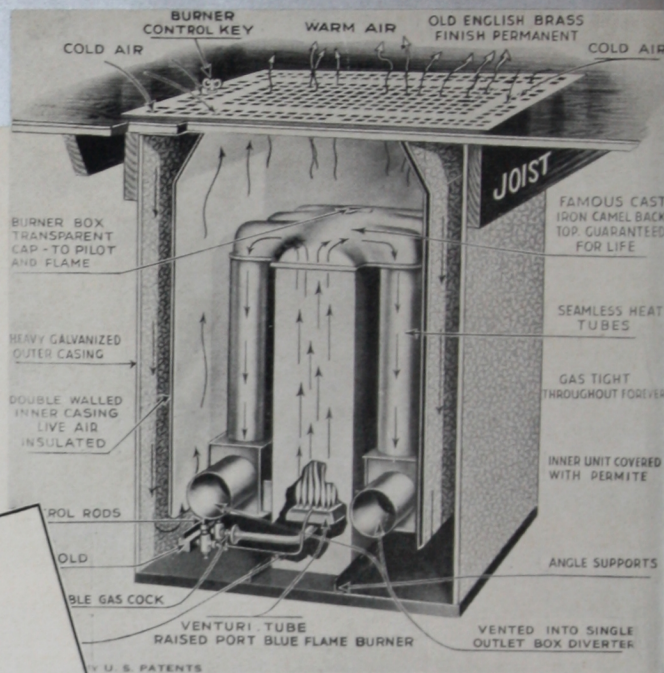
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PERMITE PROTECTS UNDER ALL CONDITIONS

[47]

PERMITE Stopped Blistering and Flaking

MR. KAUFMAN of the Empire Stove Company writes that he had despaired of finding a satisfactory aluminum paint for protection of fire chambers of the Empire Floor Furnaces until he was induced to try Permite. . . .



EMPIRE STOVE COMPANY
MANUFACTURERS OF
COOKING AND HEATING APPLIANCES
OFFICE AND FACTORY: WEST MAIN AT 24TH ST.
BELLEVILLE, ILL.

November 25, 1935.

Aluminum Industries, Inc.,
Cincinnati, Ohio.

Gentlemen:

Three years ago we experimented with aluminum paints for the protection of the fire chambers of our Empire floor furnaces. We experienced discoloration, blistering, flaking etc., due to the intense heat developed in these units and were about to abandon the idea of covering the units at all when Mr. Fred Hahn of St. Louis induced us to try Permite Heat Resisting Aluminum Paint.

The tests with the paint were so satisfactory that we ordered a quantity of Permite and have been using it exclusively ever since with splendid results.

Experience in the field (the best proof after all) shows no flaking or blistering. The units remain bright as all over under intense firing, with no signs of corrosion from condensation.

Permite is indeed a fine product and we strongly recommend it, for it has increased our business greatly.

Yours truly,
EMPIRE STOVE CO.

Edward Kaufman
PRESIDENT.

EX/ES



A TYPE FOR EVERY PURPOSE



A Correct Type of PERMITE Ready-Mixed ALUMINUM PAINT for Every Requirement

Years of research and experimentation by Permite chemists have resulted in the development and formulation of several types of Permite Aluminum Paint—each intended for a particular purpose.

There are ten types of Permite Ready-Mixed Aluminum Paint, to satisfy the widest range of painting requirements. These types are listed below. A description of each, together with a list of recommended uses, appears on the following pages:

No. 1000.....	Interior
No. 2000.....	Equipment
No. 5000.....	Exterior
No. 7000.....	General Purpose Maintenance
No. 1100.....	Heat-Resisting
No. 3000.....	Baking
No. 6000.....	Dipping
No. 8000.....	Federal Specification
No. 9000.....	Automotive Spar Enamel
No. 1200.....	Lacquer

Chart Showing Types and Physical Properties of PERMITE Ready-Mixed ALUMINUM PAINT

NUMBER AND TYPE	OIL LENGTH	VEHICLE (CLEAR)			FINISHED ALUMINUM PAINT			Standard Lining Powder Per Gallon	Drying Time: Set to Touch	Drying Time: Dry Hard	Baking Time	Baking Temp. °F.	Amount of Thinner Per Gallon	Method of Appli- cation
		Viscosity G-H @ 25°C.	N. V. M.	Lbs./ Gal.	Viscosity @ 25°C. G-H	Saybolt- Universal	Lbs./ Gal.	N. V. M.						
No. 1000 Interior	10	4-	40%	7.38	A-	225 sec.	7.89	47	1 Lb.	1-2 hr.	24 hr.	1/2-1 hr.	200°-300°	25% or 1 qt. Brush and Spray
No. 1100 Heat-Resisting	Synthetic	A-	25%	8.17	A-	67 sec.	8.90	37	1 1/2 Lb.	1-3 hr.	By Heat 500°F. or higher	1/2-1 hr.	400°-500°	None Brush and Spray
No. 1200 Lacquer	Synthetic	B-C	10%	7.25	C	470 sec.	7.50	14	5 oz.	2-5 min.	5-10 min.	As required with Lacquer Thinner Spray Only
No. 2000 Equipment	25	B	45%	7.25	C	546 sec.	7.89	53	1 1/4 Lb.	2-3 hr.	12 hr.	1/2-1 hr.	200°-300° Gas Proof	25%-50% or 1-2 quarts Brush and Spray
No. 3000 Baking	35	D-E	50%	7.58	G	920 sec.	8.29	58	1 1/2 Lb.	2-4 hr.	24 hr.	1/2-1 hr.	250°-275° Gas Proof	50%-75% or 2-3 quarts Brush and Spray
No. 5000 Exterior	50	B-C	55%	7.46	D-E	635 sec.	8.30	64	1 3/4 Lb.	3-6 hr.	24 hr.	25%-50% or 1-2 quarts Brush and Spray
No. 6000 Dipping	Synthetic	A-	25%	7.42	A-	48 sec.	8.04	36	1 1/4 Lb.	1-2 hr.	8-10 hr.	1/2-1 1/2 hr.	200°-300° Gas Proof	As required Dip and Spray
No. 7000 General Purpose Maintenance	23	B-C	48%	7.45	E-F	750 sec.	8.18	57	1 1/2 Lb.	2-4 hr.	18-24 hr.	3/4-1 hr.	250°-300°	25%-75% or 1-3 quarts Brush and Spray
No. 8000 Federal Specification	35	C-D	50%	7.41	E-F	700 sec.	8.14	58	1 1/2 Lb.	1-3 hr.	16 hr.	25%-75% or 1-3 quarts Brush and Spray
No. 9000 Automotive Spar Enamel	35	B	50%	7.35	C-D	550 sec.	7.74	55	12 oz.	2-3 hr.	6-10 hr.	1/2 hr.	200°-300° Gas Proof	25% and as required Brush and Spray

NOTE:—The majority of PERMITE Aluminum Paints are sufficiently pigmented with Standard Lining Powder, and the amount of thinning suggested in the above table depends largely upon the type of surface and manner of application: viz., brush or spray and the number of coats desired.

Explanation of Physical Properties of Aluminum Paint

A varnish generally consists of a gum or resin (either natural or synthetic), which has been incorporated either by combining with or dissolving in oil, preferably by heat, to obtain specific properties. The solution or combination is then thinned with a suitable solvent to a predetermined solid content.

Component parts of a varnish are: oils, resins, solvents and driers. Commonly used oils are: linseed, perilla, chinawood, menhaden or sardine fish. They can be used separately or in combination.

Resins are of two classifications—natural or synthetic.

Natural resins are quite numerous, the more commonly used are rosin, manilla, copal, kauri and elemi.

Synthetic resins used in varnishes are of the following types: rosin ester, glycerol phthalate or alkyd, phenol aldehyde or bakelite, cumarone or indene such as cumar, and some chlorinated or suphonated rubbers.

Solvents used are, in the majority of cases, an aliphatic or aromatic hydrocarbon of petroleum or coal tar origin. They can also be such organic liquids which exhibit solvent tendencies.

Driers are metallic salts of either fatty acids, resin acids or certain organic acids, and are used to accelerate the oxidation of the drying oils. The metal salts thus used are lead, cobalt, manganese and zinc. They may be used alone or in combination.

Oil length of a varnish is expressed as the number of gallons of oil used per one hundred pounds of resin in the formulation.

N. V. M. (Non-volatile matter) is the percentage by weight of that portion of the varnish which remains in the film during drying. The volatile portion of the varnish is the solvent or thinner.

V. M. (Volatile matter) is the percentage by weight of that portion of the varnish which will evaporate from the film during drying.

Relative viscosity, the common interpretation of which would be, the resistance or rate of flow of a varnish, that is, the higher the viscosity the slower the rate of flow, while the lower the viscosity the higher the rate of flow.

The drying of a varnish film is accomplished, first, by the evaporation of the solvent or volatile matter and then by the oxidation of the drying oils

(Continued) Explanation of the Physical Properties of Aluminum Paint

which is hastened by heat, light or accelerated methods such as baking. Varnishes can be classified as follows:

Short short oil.....	- 8 or less gallon oil length
Short oil	-10 or less gallon oil length
Medium short	-15 or less gallon oil length
Medium	-25 or less gallon oil length
Medium spar	-30 or less gallon oil length
Spar	-35 or less gallon oil length
Long spar	40-45 or less gallon oil length
Long	50-60 or less gallon oil length

A lacquer usually consists of nitrocellulose, resin, plasticizer, solvent and non-solvent or diluent. These materials are compounded without the aid of heat.

- (a) The nitrocellulose is the film forming medium and the viscosity of the lacquer is usually governed by the selection of the proper grade of nitrocellulose.
- (b) The resin generally gives the gloss, adhesion, durability, hardness and flexibility to the lacquer.
- (c) The plasticizers give flexibility, continuity of film, miscibility of resin and lacquer, and retention of film-forming characteristics of nitrocellulose.
- (d) The solvents are the agents which permit solution of the solid portion.
- (e) The diluents are volatile liquids which are non-solvents and are added to cheapen the lacquer in cost.
- (f) The common resin used in lacquers are alkyd-rosin ester, damar and
- (g) The common plasticizers as used are derivatives of castor oil, dibutyl phthalate, butyl cellusolve and diethyl oxalate.
- (h) The common solvents used are alcohol, ethyl and butyl acetate, cellusolve and butanol.
- (i) The common non-solvents or diluents are toluol, lacquer naphthas and benzol.

Synthetic resin solutions consist of alkyd, phenolic, esters or cumarones, either straight or modified with drying oils or their acids or natural resin acids, dissolved in suitable solvents. In some of the resin solutions now on the market it is comparatively difficult to arrive at a line of demarkation in order to distinguish from a varnish.

Spirit varnishes are generally natural resins such as damar dissolved in alcohol.

Oils for aluminum paint are mostly linseed, chinawood (tung), perilla, or soya bean or a combination of the above with a small percentage of solvent.

INTERIOR—No. 1000

The Interior—No. 1000 Permite Ready-Mixed Aluminum Paint is a short oil type. It is particularly suited for use on building interiors, such as walls, ceilings, etc., where weather conditions are equalized and other destructive agents minimized. This type of Permite is recommended for application on interior surfaces and other surfaces where appearance and illumination are the primary requisites.

... USES ...

**BASEMENTS
BUILDING INTERIORS
CEILINGS**

**GAS CYLINDERS
NOVELTY ARTICLES
ORNAMENTS**

**STRUCTURAL STEEL
TRUCK BODY INTERIORS
WALLS (Interior), ETC.**

EQUIPMENT—No. 2000

The Equipment—No. 2000 Permite Ready-Mixed Aluminum Paint is a medium oil type which has been formulated for use on machinery and factory equipment and other applications requiring a quick drying paint. It will resist oil, grease, water, gasoline and abrasive agents. This grade of Permite also has good heat-resisting qualities. It may be safely applied to surfaces whose temperatures do not exceed 450° F. Even with the extreme hardness to which this paint dries, the film will not be brittle and will not chip from impact.

... USES ...

**BARRELS
BINS
CABINETS
CASTINGS
CHIMNEYS
COOLERS**

**CRANES
DERRICKS
ENGINE HEADS
FACTORY EQUIPMENT
FARM MACHINERY
FIXTURES**

**FURNITURE
MACHINES
MILLS
MIXERS
OVENS
STOVES**

**TANKS
TRACTORS
VALVES
WHEELS
(Automobile)
ETC.**

EXTERIOR—No. 5000

The Exterior—No. 5000 Permite Ready-Mixed Aluminum Paint is a long oil type. Because of its exceptional adhesion and flexibility, this paint provides an excellent coating for all exterior surfaces of wood, iron, steel, brick and concrete. It does not set to touch rapidly, can be easily brushed and has extraordinary leveling out qualities. This type of Permite is very durable and will not crack, peel or check when exposed to sudden changes in temperature.

Used on trucks, buses, coaches and other enclosed vehicles, Permite No. 5000 reflects the heat; materially reduces interior temperatures.

• • • USES • • •

BASEMENTS
BRIDGES
BUS AND TRUCK
FABRIC TOPS

BUILDINGS
CHIMNEYS
DERRICKS
DOCKS

DUST COLLECTORS
FARM BUILDINGS
GAS HOLDERS
HANGARS

RAILROAD CARS
STACKS
TANKS
TOWERS, ETC.

GENERAL PURPOSE MAINTENANCE—No. 7000

The General Purpose Maintenance type of Permite Ready-Mixed Aluminum Paint is just what its name infers, as it may be used extensively for either interior or exterior maintenance painting. Upon application, the paint film dries very hard, yet has unusually good adhesion and flexibility, although not to the same high degree as the Exterior—No. 5000 grade. This paint has excellent hiding power and durability, and will retain its brilliance indefinitely, even when subjected to weathering or other destructive agents encountered on the outside or inside. It will also resist heat up to 450° F.

• • • USES • • •

AGITATORS
BINS
BOILERS
CABINETS
DERRICKS

ELEVATORS
ENGINES
FENCES
FENCE POSTS
MACHINERY

LAMP STANDARDS
OVENS
RAILROAD EQUIPMENT
STACKS
STEEL BUILDINGS

STRUCTURAL IRON
TANKS
TRUCK BODIES
VEHICLE WHEELS
WALLS, ETC.

HEAT-RESISTING—No. 1100

The Heat-Resisting—No. 1100 Permite Ready-Mixed Aluminum Paint is formulated with an exclusive synthetic alkyd resinous vehicle, which permits its application to iron and steel surfaces where temperatures ranging from 450° F. to 1,000° F. are encountered. While ordinary paints will not withstand temperatures in excess of 350° F, Permite Aluminum Paint is capable of resisting heat up to 1,000° F. Heat-Resisting Permite should be used only on surfaces whose normal temperatures are greater than 450° F. This paint dries hard only when heat of 500° F. or over is applied. Therefore, it is not recommended for applications where temperatures are lower than 450° F.

• • • USES • • •

BOILER DOORS
BURNERS
DIGESTORS

FURNACE DOORS
MANIFOLDS
OVENS

STACKS
WELDING
APPARATUS PARTS

STOVES
ETC.

BAKING—No. 3000

Permite Ready-Mixed Aluminum Paint No. 3000 is a long oil type. Retains its flexibility through the baking process, and is non-yellowing. The baked film is highly resistant to abrasion, fumes, acids, and other destructive agents.

DIPPING — No. 6000

Permite Ready-Mixed Aluminum Paint No. 6000 has a synthetic resinous vehicle which makes it highly efficient for dipping applications. Widely used for product painting and finishing.

FEDERAL SPECIFICATION — No. 8000

Permite Ready-Mixed Aluminum Paint No. 8000 is a long oil type, especially formulated to meet Federal Specification TT-V-81.

AUTOMOTIVE SPAR ENAMEL No. 9000

Permite Ready-Mixed Aluminum Paint No. 9000 is a spar enamel especially adapted for spray application to automotive trucks, buses, coaches, and similar vehicles. Sets to touch in two to three hours, dries hard in six to ten hours.

LACQUER — No. 1200

Permite Ready-Mixed Aluminum Paint No. 1200 is ideal for spray application wherever a quick-drying aluminum lacquer is required. It dries hard in five to ten minutes.

General Instructions for Using **PERMITE** Ready-Mixed **ALUMINUM PAINT**

APPLICATION

Permite Ready-Mixed Aluminum Paint may be applied with brush, spray gun or by dipping. In brushing, care should be taken that all final brush strokes are made in the same direction. Excessive brushing will result in streaking and darkening. Do not carry too much paint on the brush. If spraying equipment is employed, only sufficient pressure should be used to secure adequate atomization. Excessive pressure should be avoided. Do not hold spray-gun at too great a distance from work. In dipping, follow the specific instructions of the manufacturer carefully, so as to avoid faulty and unsatisfactory applications.

1. PAINTING WEATHER- EXPOSED STEEL—New Work

The steel surface should be thoroughly clean and dry. Oil and grease should be removed with mineral spirits. Rust, mill-scale, dirt or foreign matter, should be removed by scratch-brushing, scraping or sand-blasting. No painting should be done in wet weather or when the temperature is below 40°F. or when there is frost or moisture condensation on the steel. A good rust inhibitive primer should be applied and allowed to dry for at least 48 hours. Two coats of Permite Ready-Mixed Aluminum Paint should then be applied over the priming coat, allowing 24 hours drying time between coats.

In those exceptional cases, where painting at shorter intervals may be desirable, it is not necessary to provide the surface with the longer-lasting protection afforded by the application of a primer and two coats of Per-

mite. One coat of Permite, used either with or without a primer, depending upon the condition of the surface, will suffice for giving complete protection and brilliant appearance for this limited period.

2. PAINTING WEATHER- EXPOSED STEEL—Old Work

The steel surface should be free from rust, loose paint, loosely adhering mill-scale, dirt and other foreign matter. Oil and grease should be removed with mineral spirits. No painting should be done in wet weather or when the temperature is below 40°F. or when there is frost or moisture condensation on the steel. All bare spots should be touched up or spot primed with a good rust inhibitive priming paint, allowing at least 48 hours for drying. Two coats of Permite Ready-Mixed Aluminum Paint should then be applied, allowing 24 hours drying time between coats.

In those exceptional cases, where painting at shorter intervals may be desirable, it is not necessary to provide the surface with the longer-lasting protection afforded by the application of a primer and two coats of Permite. One coat of Permite, used either with or without a primer, depending upon the condition of the surface, will suffice for giving complete protection and brilliant appearance for this limited period.

3. PAINTING WEATHER- EXPOSED WOOD—New Work

The surface should be thoroughly clean and dry. Cracks, as well as counter sunk nail heads, should be filled with a good putty. No

General Instructions for Using PERMITE Ready-Mixed ALUMINUM PAINT

(Continued)

painting should be done in wet or freezing weather or within 24 hours following a rain. Either one or two coats of Permitem Ready-Mixed Aluminum Paint, as desired, should be applied as a primer or finish coat. At least 24 hours drying time should be allowed between coats.

4. PAINTING WEATHER-EXPOSED WOOD—Repaint Work

The surface should be scraped and scratch-brushed to remove blistered or loosely adhering paint, and then thoroughly dusted. Cracks should be filled with putty. No painting should be done in wet or freezing weather or within 24 hours following a rain. One or two coats of Permitem Ready-Mixed Aluminum Paint, as desired, should be applied, allowing 24 hours drying time between coats.

5. PAINTING WOOD—Interior

If the wood has previously been painted with a high gloss finish, the surface should be sanded before any paint is applied (this applies particularly to interior trim). Apply one or two coats of Permitem Ready-Mixed Aluminum Paint, as desired, allowing 24 hours drying time between coats.

6. PAINTING INTERIOR IRON OR STEEL

The surface should be free from rust, loose paint, loosely adhering mill-scale, dirt and other foreign matter. Oil and grease should be removed with mineral spirits. Apply one or two coats of Permitem Ready-Mixed Aluminum Paint, as desired, allowing 24 hours drying time between coats.

7. PAINTING BRICK, CONCRETE AND PLASTER

If surface has never been painted, it should first be sealed or filled with a good white sealer. The sealer should be of the long oil, non-penetrating alkali-proof type. 48 hours drying time should be allowed for this filler coat. Any free lime spots should be neutralized with a 10% solution of copper sulphate. One or two coats of Permitem Ready-Mixed Aluminum Paint should be applied over sealer, allowing 24 hours drying time between coats.

If the surface has previously been painted, all loose paint, dirt, or calcimine should be removed. The surface should be dry. Any free lime spots should be neutralized with a 10% solution of copper sulphate. One or two coats of Permitem Ready-Mixed Aluminum Paint should then be applied, allowing 24 hours drying time between coats. On the first coat, add 1/2 pint of a very volatile solvent, such as toluol, to a gallon of thinned Permitem Ready-Mixed Aluminum Paint.

8. PAINTING STEEL OR IRON SURFACES SUBJECT TO TEMPERATURES ABOVE 450°F.

In painting metal surfaces which reach high temperatures, special care should be taken to insure a thoroughly clean surface. Remove all scale, paint, grease, dirt, rust or foreign matter. A rough surface will improve the adherence of the aluminum paint film. Temperature of surface to be painted should be 10°F.-25°F. higher than the surrounding atmosphere. Do not paint on surfaces that have a temperature below 80°F. or above 150°F.

